

REMARKS

Claims 1-9 and 11-15 are pending in the Application. Claims 1, 3, 6, and 11-13 are amended. Claims 9, 11, and 12 are allowed. Claims 7 and 8 are objected to as depending from a rejected base claim, and claims 13-15 are objected to because claim 13 depends from previously canceled claim 10. Claims 1-6 are rejected as allegedly being anticipated or obvious. Applicant requests reconsideration and allowance.

**Claim Objection**

With respect to the objection of claims 13-15, Applicant notes that claims 11 and 12 also depend from previously canceled claim 10. Therefore, claims 11 and 12 have been amended to depend from claim 9, as has claim 13. Applicant respectfully submits that those changes overcome the objection.

**Claim Rejections**

Claims 1 and 6 are rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Max et al., U.S. Patent No. 5,873,262. According to the Office Action, “It is submitted that Max et al. appear to disclose (see col. 2 line 43 through col. 4 line 53) the structure of the installation recited in the instant claims.” Applicant respectfully traverses the rejection.

Paragraphs 18 and 19 in the Summary of the Invention section of the Application explain that where natural pressurization (i.e., pressure head created by the weight of a column of water) is relied on to support hydrate formation in a shaft formed in land, a relatively deep shaft may need to be provided, and that may increase construction and maintenance costs. (Applicant notes that the shaft need not be limited to any particular geometric configuration, so long as it contains a body of water able to generate a pressure head.) By combining natural and artificial pressurization, however, a shorter shaft can be employed for hydrate-based desalination, even where depth below the land’s surface of the hydrate formation region is less than that which would otherwise be required for hydrate formation if only natural pressurization were being employed. In other words, pressurizing the dissociation region of the installation, which pressurization combines with the natural pressurization attributable to the weight of the column of water in the shaft, enables hydrate to be formed at depths where the weight of a column of the

input water to be treated would, by itself, be insufficient to form hydrate. Claim 1 has been amended to better express this concept.

U.S. Patent No. 5,873,262 clearly does not disclose or suggest the claimed invention for at least two reasons. First, the '262 patent is directed to an open-ocean installation for conducting hydrate-based desalination, not an installation that includes a shaft extending downward into the ground with a hydrate formation region formed at a lower portion of such shaft. Second, in the '262 patent, pressure at the point in the column where hydrate is formed will be at ambient pressure due to the open bottom 34, not a combination of mechanically generated pressure and naturally generated pressure head. In other words, natural pressurization (i.e., ambient pressure) at the depth where hydrate is formed in the '262 patent will, by itself, be sufficient to support hydrate formation. Thus, Applicant submits that the '262 patent neither discloses nor suggests the claimed invention and respectfully requests that the rejection be withdrawn.

Claim 5 is rejected under 35 U.S.C. § 103 as allegedly being unpatentable over the '262 patent in view of Buchanan, U.S. Patent No. 3,027,320, on which the Examiner relies for its disclosure of using a pump to introduce sea or intake water into a hydrate-forming and decomposing installation. Applicant notes that like the '262 patent, Buchanan '320 is also directed to an open-ocean installation in which natural pressurization is relied on to generate the hydrate-forming pressures; it is not directed to an in-land shaft installation in which natural and mechanical pressurization combine to generate the requisite hydrate-forming pressures. Accordingly, the combination of references does not yield the subject matter of claim 5, and Applicant respectfully requests that the rejection be withdrawn.

#### **Double-Patenting Rejection**

Claims 1-6 are provisionally rejected for obviousness-type double-patenting over claims 25 and 59 of co-pending Application No. 10/266,258. Applicant respectfully submits that the subject matter of claims 1-6, as clarified by the present amendments, is patentably distinct over those two claims. Accordingly, Applicant respectfully traverses the double-patenting rejection and requests that it be withdrawn.

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In view of the foregoing, Applicant respectfully submits that all remaining claims are in condition for allowance, and timely Notice to that effect is respectfully requested.

Respectfully submitted,

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